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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/374,344	08/13/99	HAYAKAWA M	628365009012

IM22/0411

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EXAMINER	
PADGETT,M	
ART UNIT	**PAPER NUMBER**
1762	7

DATE MAILED: 04/11/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.	Applicant(s)
09/374,344	Hayakawa et al
Examiner	**Group Art Unit**
M.L. Padgett	1762

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication .
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

☒ Responsive to communication(s) filed on 10/27/99 & 11/15/99.

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle,* 1935 C.D. 1 1; 453 O.G. 213.

Disposition of Claims

☒ Claim(s) 1 is/are pending in the application.

Of the above claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 11 9(a)-(d). Parent case 08/933,886

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been not presently available to check for copies

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 1 7.2(a)).

*Certified copies not received: _____.

Attachment(s)

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 5

☐ Interview Summary, PTO-413

☒ Notice of Reference(s) Cited, PTO-892

☐ Notice of Informal Patent Application, PTO-152

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Other _____

Office Action Summary

In Hiroshi Okaniwa et al, the claim (p. 1); page 3, lines 1-7, 12-37; examples 1 and 2, particularly tables 1, 3, and p. 4, lines 13-18, plus p. 6 last paragraph, where the decrease in contact angle of water for the exposed areas, shows that the irradiation cause water molecules to be physically absorbed, including at angles of less than 20^0.

(7) The EP reference to Ozawa cited by applicant is of interest as discussing the photocatalytic activity caused by irradiation in a manner of interest, but is not related directly to effects.

(8) Freund et al is cited as an example of a surface that the irradiation modifies to make it hydrophillic (Fig. 1), but the surface layer does not fit the definition of catalyst.

The Kanoh et al references deal with hydrophillic activating catalysts, where films thereof are irradiated, then exposed to water which does not remove them, but it is unclear if they are catalyst in the scope intended by the claims. Note that both references predate the effective U.S. filing date (are potential 102(e)), but neither the PCT date. If it becomes clear that the claims are intended to read on their scope, a certified translated English copy of the PCT document would be need to remove them as references (if it is not already present in the parent case, which is not available to check).

Meinzer et al has similar relevance to Ogawa. Mance is equivalent to Field et al or Hiroshi et al, except that when it is exposed to air, hence the moisture present therein, it is unknown whether or not H_20 is adsorbed on the irradiated catalyst or not from the disclosure.

(1) Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In line 3 of claim 1 "a substrate" uses the wrong article for a limitation previously introduced in line 1, while "the surface of..." (line 7) and "the photocatalytic action" (lines 7-8) lack proper antecedent basis. Also, the term photocatalytic has unclear metes and bounds, in the sense of what reaction is it catalytic towards? What the photo excitation is changing to render the surface hydrophilic is unclear. By definition it cant be the catalyst, as it does not react, unless applicants dont really mean catalyst.

(2) The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

(3) Claim 1 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 54-56, 91-96, 99, 119-122, 125 and 131 of U.S. Patent No. 6,013,372. Although the conflicting claims are not identical, they are not patentably

distinct from each other because while the wording of the claims are not identical, and the patented claims contain limitations not included in the present claims, such as ranges of contact angle with water, all the concepts of the present claim 1 are embodied in these patented claims. Claim 24 explicitly sets forth the absorption of H_20 due to photo catalytic excitation, however all the process claims involve the photocatalyst, photoactivation and some sort of contact with water, that inherently involves its adsorption on the treated surface, so the differences between the patent claims and claim 1 are only obvious variations, hence it would have been obvious to one of ordinary skill in the art to generalize from the patent claims, as to the process being employed, to thus determine that generically water is being adsorbed.

(4) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

(5) Claim 1 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Field et al.

In Field et al, see the abstract, col. 1, lines 62-73 col. 2, lines 18-28; col. 3, lines 10-col. 4, lines 7 and especially col. 4, line 64-col. 5, line 18; etc.

(6) Claim 1 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by JP 149281 to Hiroshi Okaniwa et al, as represented by the translation provided by applicant's IDS.

(9) Any inquiry concerning this communication should be directed to M. L. Padgett at telephone number (703) 308-2336 and FAX # (703) 305-5408 (official) and 305-6357 (unofficial).

M. L. Padgett/vr

04-05-00

MARIANNE PADGETT
PRIMARY EXAMINER
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